ALLEN-BRADLEY

1336 PLUS Configured Drive
Analog Input Isolator Option
(-N3)

Instructions

Important: This document is a supplement to, and is intended to be used with the 1336 PLUS User Manual (Publication 1336 PLUS-5.0).

Description/Operation

The Analog Input Isolator option is factory installed and provides an isolator for the analog input speed reference to the drive. The default (as shipped) setting will be to accept a remote 4-20mA input. The isolator may be reconfigured by the user to accept other input voltage or current spans, with or without offset and optional inverse operation.

The isolator output to the drive is fully isolated from the isolator input, line power, and ground. The isolator helps to minimize ground loops and reduce susceptibility to transients in a noisy environment.

Calibration & Set-Up

ATTENTION: To avoid shock hazard, assure that all power to the drive has been removed and locked out, before performing service on the drive or interfacing to the other hardware associated with this option.

1. Remove power.
2. Remove front panel from the bezel and expose the range jumpers and the zero and span adjustments.
3. Be sure that all range select jumpers are set to their proper positions. Factory default values for both input and output range will be 4-20mA.
4. Connect a precision current source to the input and a precision current meter to the output. Apply power.
5. Set the input source to 4mA and adjust the zero control for proper for 4mA output.
6. Increase the input to 20mA and adjust the span control for 20mA output.
7. Repeat until both readings are correct.

Component List

Table A lists the component required for all drive ratings.

Table A

Drive Rating	Description	Schematic Symbol Code	Quantity Required	A-B Drives Part Number	Vendor and Vendor Part Number
ALL	Isolator	EA4	1	166087	Wilkerson DM4380A

Component Specifications

Transmitter:	DC to DC
Isolation:	Transformer type
Input Range:	–256 to +256V DC or –100 to +100mA DC
Input Impedance:	1 Megohm (voltage) or 20 ohms (current)
Output:	4-20mA **(FACTORY SET AND MUST NOT BE CHANGED)**
Response Time:	100ms
Accuracy:	0.1% of span
Linearity:	0.05% of span
Control Wire:	#16 GA. (AWG) thermoplastic, red (power), white (neutral)
Signal Wire:	#22 GA. (AWG) 2-conductor shielded Belden 8737

Associated Drive Programming

[FREQ SELECT 1] parameter 5 and [FREQ SELECT 2] parameter 52 determine location of frequency reference input.

[MINIMUM FREQ] parameter 16 and [MAXIMUM FREQ] parameter 19 determine the range of drive output frequency regardless of input reference.

[ANALOG INVERT] parameter 84 inverts the analog reference received. This can also be accomplished by reprogramming the isolator (see page 3).

[ANALOG TRIM ENABLE] parameter 90 converts the drive potentiometer input to an analog trim function.

[4-20 mA LOSS SELECT] parameter 150 determines how the drive will react to a loss of 4-20 mA reference input.

[4-20 mA HERTZ] parameter 140 allows you to view the actual current at the analog input reference.

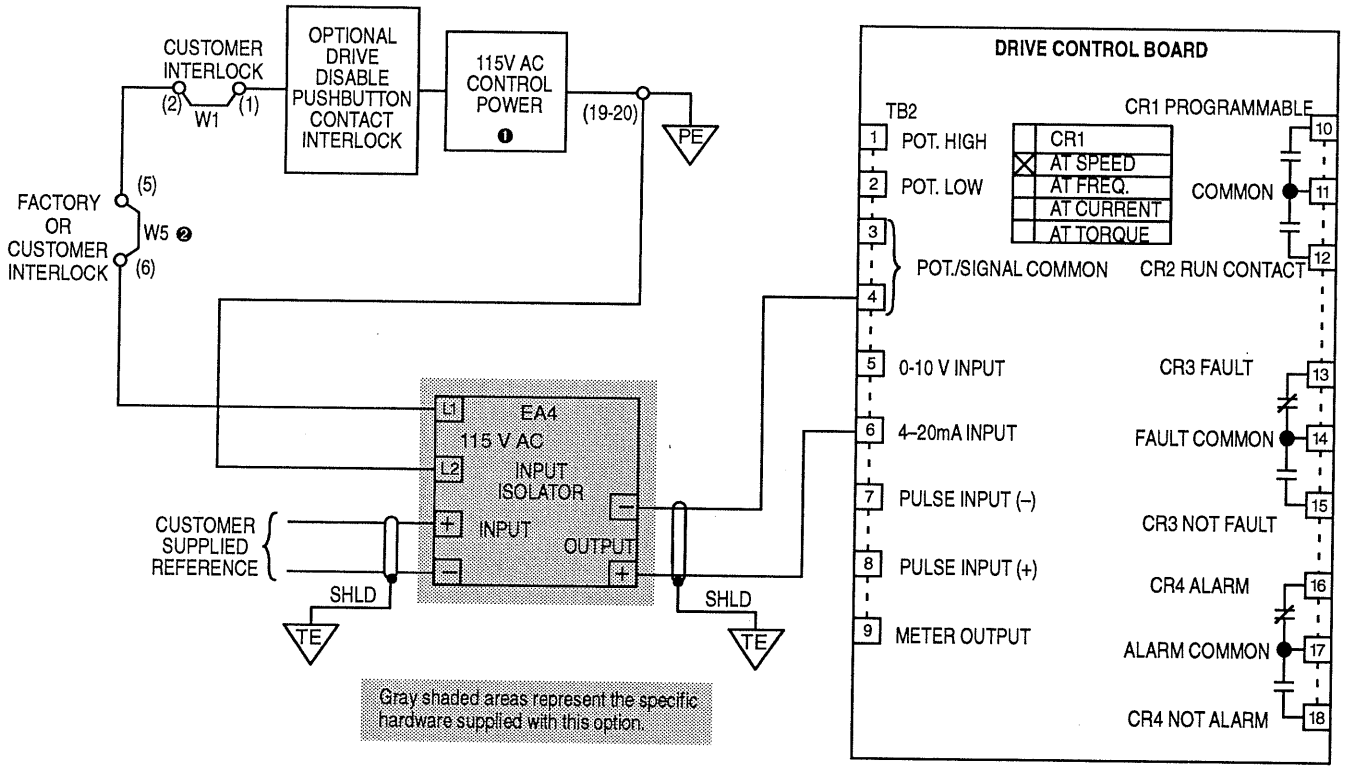
Wiring Information

The schematic representation, found in Figure 1, is indicative of the design and hardware associated with this option. Peripheral hardware is shown for informational purposes and may or may not be part of a specific drive package, as ordered.

Important: In all cases, the actual drive order schematics will take precedence over this document.

ATTENTION: To avoid shock hazard, assure that all power to the drive has been removed and locked out, before performing service on the drive or interfacing to the other hardware associated with this option.

Figure 1
Signal and Control Wiring



(1), (2), (5), (6), (21-20) Indicates Terminals found on Terminal Block TB4 which is located on the drive sub-panel.

❶ *115 V AC Control Power may be supplied as a separate drive option, or remotely supplied by the user.*

❷ *This factory jumper will be replaced by a Bypass Interlock Contact, if a bypass option is supplied.*

Special Isolator Set-Up

To set-up for input signals other than 4-20mA, follow the steps below:

ATTENTION: To avoid shock hazard, assure that all power to the drive has been removed and locked out, before performing service on the drive or interfacing to the other hardware associated with this option.

ATTENTION: The isolator and drive are factory programmed for 4-20mA output. If you choose to change the factory programming, you accept responsibility for final drive output signal.

1. Remove power.
2. Remove front panel.
3. Place the mode jumper on the input jumpers in the V or MA position to select voltage or current input.
4. Place the INPUT SPAN jumper at the next higher position above the desired span.

   The labeled values represent the maximum achievable span for each position. The SPAN control will allow adjustment of the output from the marked value of span to 1/2 the marked value. For example, the position marked 2 VOLTS/100 mA allows span to be adjusted from 1 to 2 volts and fom 50 to 100 milliamperes.
5. Place the OFFSET POLARITY jumper in the ELV to cancel elevated input offsets (example 1 to 5VDC). Place the jumper in the SUP position to cancel suppressed input offsets (example –5 to +5VDC).
6. Calculate the amount of offset.

   ***Example** 1 to 5 V. Span is 4 volts. (Offset is 1/4 = 25%)*
   ***Example** –5 to +5 VDC. Span is 10 volts. (Offset is 5/10 = 50%)*
   ***Example** .25 to 2 VDC. Span is 2 volts. (Offset is .25/2 = 12.5%)*
   Place the jumper in the position nearest the desired offset. In the third example the 0% or the 25% positions could be used.

   To set-up for reverse acting output, unplug the front panel from the bezel and move the jumper resident in the "Normal" position to the "Rev Acting" position. This change will cause a 20-4mA output signal decrease as the input signal increases.

   Important: The output span must remain at 4-20mA or 20-4mA for proper input to the drive control board.

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